

Appl. No. 09/712,632
Amendment dated May 28, 2003
Reply to Office Action of February 12, 2003

PATENT

REMARKS/ARGUMENTS

After entry of this amendment, claims 10-14 and 33-60 will be pending in this application. Claims 1-9 and 15-32 have been cancelled without prejudice. Claims 10-14 have been amended. New claims 33-60 have been added. Support for the new and amended claims can be found in the specification. No new matter has been added.

Claims 10-14 stand rejected under 35 USC § 102(e) as being anticipated by Van Hook, et al, United States patent number 6,353,438. Reconsideration of this rejection and allowance of the pending claims in light of these amendments and remarks is respectfully requested.

Drawings

The drawings have been objected to. Formal drawings are being sent via Express Mail # EV 322 216 214 US under separate cover.

Claim 10

Claim 10 stands rejected under 35 USC § 102(e) as being anticipated by Van Hook, et al. (Van Hook) But Van Hook does not teach each and every limitation of this claim. For example, claim 10 recites "further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle level bits of the t coordinate, and at least one bit of the level of detail." Van Hook does not provide this feature. Rather, Van Hook teaches using the level of detail as part of a tag. (See Van Hook, column 7, lines 37-39 and the abstract.)

Using at least one bit of the level of detail as part of an index signal reduces cache thrashing by limiting overwrites of texels at different levels of detail. (See pending application, page 15, lines 7-15.) Van Hook does not provide this benefit. For at least this reason, claim 10 should be allowed.

Claim 11

Claim 11 stands rejected under 35 USC § 102(e) as being anticipated by Van Hook. But Van Hook does not teach each and every limitation of this claim. For example, claim

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11 recites "further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle level bits of the t coordinate, and at least one bit of the texture identification." Van Hook does not provide this feature.

The pending office action points to column 2, lines 6-35 and column 14, lines 39-64 as teaching this limitation. (See the pending office action mailed February 12, 2003, page 5, paragraph 14.) But the Applicant submits that these sections only discuss texture mapping and using bits of s and t as the index. Van Hook does not teach using at least one bit of the texture identification as part of the index.

Using at least one bit of the texture identification as part of the index reduces cache thrashing by allowing texels from two different textures to reside simultaneously in cache without overwriting. (See pending application, page 16, lines 16-17.) Van Hook does not provide this feature. For at least this reason, claim 11 should be allowed.

Claim 12

Claim 12 stands rejected under 35 USC § 102(e) as being anticipated by Van Hook, et al (Van Hook). But Van Hook does not teach each and every limitation of this claim. For example, claim 12 recites "further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle level bits of the t coordinate, and at least one bit of the r coordinate." Van Hook does not provide this feature.

The pending office action points to column 1, line 45 through column 2, line 60 and column 15, lines 8-11 and 34-35 as teaching this limitation. (See the pending office action mailed February 12, 2003, page 5, paragraph 15.) But Applicant submits that these sections only discuss texture mapping, mipmapping, and bilinear filtering. Van Hook does not teach using at least one bit of the r coordinate as part of the index.

Using at least one bit of the r coordinate as part of the index reduces cache thrashing by allowing texels from two different texture levels in a 3-D texture to exist simultaneously in cache without overwriting. (See pending application, page 17, lines 28-29.) Van Hook does not provide this feature. For at least this reason, claim 12 should be allowed.

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Claim 13

Claim 13 stands rejected under 35 USC § 102(e) as being anticipated by Van Hook. But Van Hook does not teach each and every limitation of this claim. For example, claim 13 recites "further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle level bits of the t coordinate, and at least one bit of the main memory address." Van Hook does not provide this feature.

The pending office action points to column 16, lines 38-43 as teaching this limitation. (See the pending office action mailed February 12, 2003, page 6, paragraph 16.) But Applicant submits that this paragraph only discusses using part of the level of detail in the tag. Van Hook does not teach using at least one bit of the main memory address as part of the index.

Using at least one bit of the main memory address as part of the index reduces pattern induced thrashing by randomizing texel storage. (See pending application, page 19, lines 22-23.) Van Hook does not provide this feature. For at least this reason, claim 13 should be allowed.

Other claims

Claim 14 should be allowed for the same reasons as claims 10-13 above. Claims 33-55 depend on claims 10-14 and should be allowed for the same reasons as those claims, as well as for the additional limitations they recite.

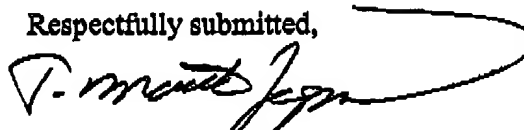
In view of the foregoing, Applicant believes all claims now pending in this application are in condition for allowance. The issuance of a formal notice of allowance at an early date is respectfully requested.

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If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-752-2456.

Respectfully submitted,



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